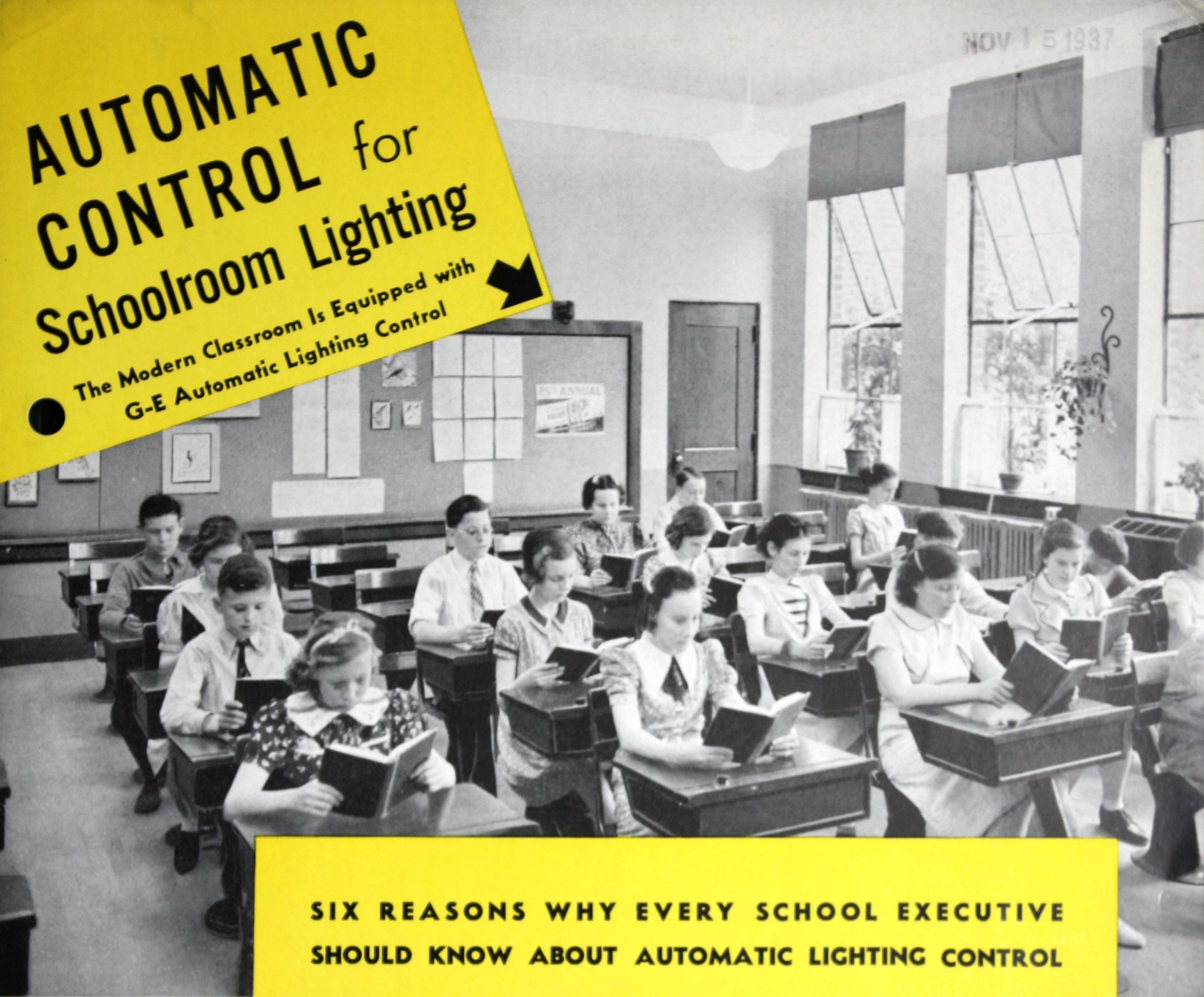


# **AUTOMATIC CONTROL for Schoolroom Lighting**

The Modern Classroom Is Equipped with  
G-E Automatic Lighting Control

NOV 15 1937



## **SIX REASONS WHY EVERY SCHOOL EXECUTIVE SHOULD KNOW ABOUT AUTOMATIC LIGHTING CONTROL**

When Used with Adequate Lighting —

IT minimizes eye strain for pupils

IT results in greater average pupil achievement

IT turns off artificial illumination when not needed

IT relieves the teacher of responsibility for lighting

IT eliminates heating of room by unnecessary lights

IT will pay for itself in a short time



**GENERAL  
ELECTRIC**

TURN THE PAGE TO FIND OUT WHY G-E PHOTOELECTRIC  
LIGHTING CONTROL GIVES THESE AND MANY OTHER BENEFITS



# G-E PHOTOELECTRIC CONTROL

MAINTAINS CORRECT ILLUMINATION IN THE CLASSROOM

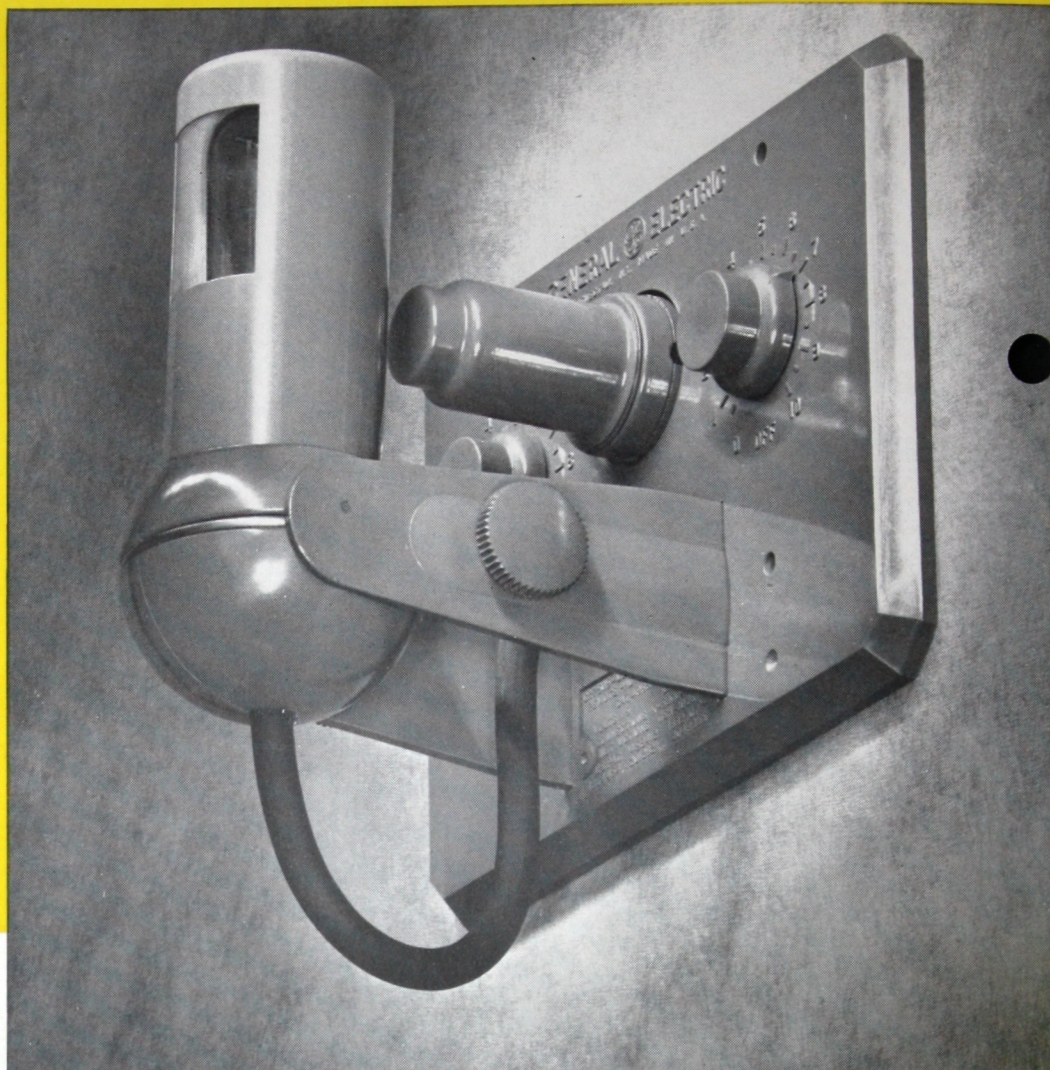
*Attractive Unit is of Harmonious Gray*

•  
*"On" and "Off" Adjustment by Knobs*

•  
*Phototube Adjustable for Any Condition*

•  
*Requires Only 5 In. by 7 In. Wall Space*

•  
*Can Be Flush or Surface Mounted*



LET'S consider a warm April day. Light clouds pass over the school, but dark clouds, gusts of wind, flashes of lightning, peals of thunder soon follow. Daylight in the classrooms dims. The children, concentrated on their study, pay no attention; but as the daylight wanes, the schoolroom lights are turned on, automatically—at just the proper time. There is no interruption of the work yet the children's eyes are being protected by the ever-vigilant photoelectric control.

After the storm passes over, the sun comes out again. The schoolroom lights are turned off as automatically as they came on. The teacher's work is not interrupted, yet artificial light is being conserved, since the lights are burned only when they are needed.

Just as we long ago relegated the job of controlling temperature in the classroom to automatic thermostats; as we exchanged alarm clocks on the teacher's desk for uniform school clock systems;

as we installed phones or address systems to transmit messages to the classrooms, we can likewise relieve teachers of the responsibility for the classroom lighting. By so doing, we protect the children's eyes, improve classroom efficiency, and eliminate the fatigue that comes from inadequate lighting—one cause of bad report cards.

Aren't these just as important to children as the schoolroom temperature, the correct timing of classes, and the efficient transmission of messages? Today, educators are realizing more and more the vital part that the eyes play in the assimilation of knowledge, and the importance of adequate light at all times for these eyes—hence the importance of automatic control of the lighting.

## *What It Does*

Automatic lighting control, as has already been stated, turns the classroom lamps on or off as outside light conditions demand. Hence, it maintains



# FOR SCHOOLROOM LIGHTING

FOR BETTER SIGHT AND BETTER CLASSROOM RESULTS

the light at the pupils' desks at a value above a given minimum illumination. When the teacher enters the classroom in the morning, she simply turns on the regular wall light switch. This permits the relay to turn the classroom lights on or off as conditions may demand. Turning the switch off at the close of the day makes the lights inoperative until they are again needed.

For those classrooms in which the natural daylight on the inner row of desks is never adequate—and most classrooms are in this category—the economical remedy is to operate the *inner* row of lighting units at *all times* when classes are in session, controlling the outer row with the new photoelectric control, which will automatically turn on the outer row when natural light wanes.

The adjustment for obtaining the desired lighting conditions in the room is made by means of two knobs on the front of the relay beside the amplifier tube. Setting one of these fixes the low point of natural light at which the schoolroom lights are turned on. Setting the other fixes the point at which artificial illumination is no longer desired. Since

the controls are in the classroom, it is a simple matter to observe the illumination on the desks with and without room lights as the adjustment is being made. Accurate measurement of light intensity at any given point in the room can be made by the use of the Light Meter. With photoelectric control correctly installed, the tubes and controls are mounted well out of reach of meddling hands.

## Where It Can Be Used

The G-E photoelectric schoolroom-lighting control is so simple that it can readily be applied in existing schoolrooms as well as in new buildings.

Where it is desired to install an equipment in an existing room, surface-mounted units and wiring in surface moulding are substituted for flush-mounted units and concealed wiring. No cutting into walls is required, since the only connection to existing light circuits is made at the wall switch. The phantom view of a typical schoolroom on the last page shows just how this type of installation is accomplished.

Notice that only one unit is required within the classroom in the usual installation, and it is so located as to minimize wiring. The compactness

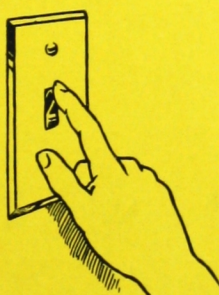
## FIVE OF THE THINGS THAT AUTOMATIC CONTROL HELPS TO CORRECT IN THE CLASSROOM



Increasing percentage of school students having faulty eyesight

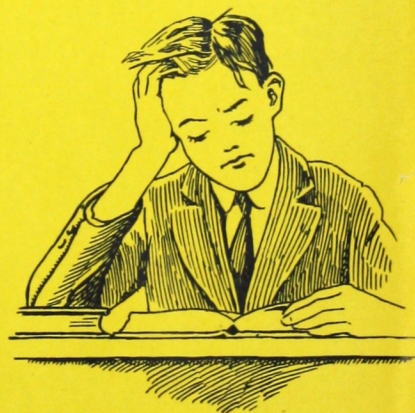
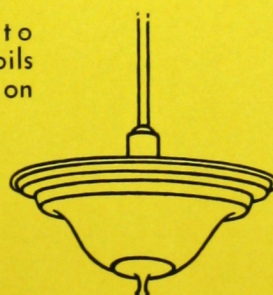
Elementary grades..	9%
High school .....	24%
College .....	31%

Poor grades, which definitely result from faulty classroom lighting



Lights often on when not needed, increasing power bill without improving conditions

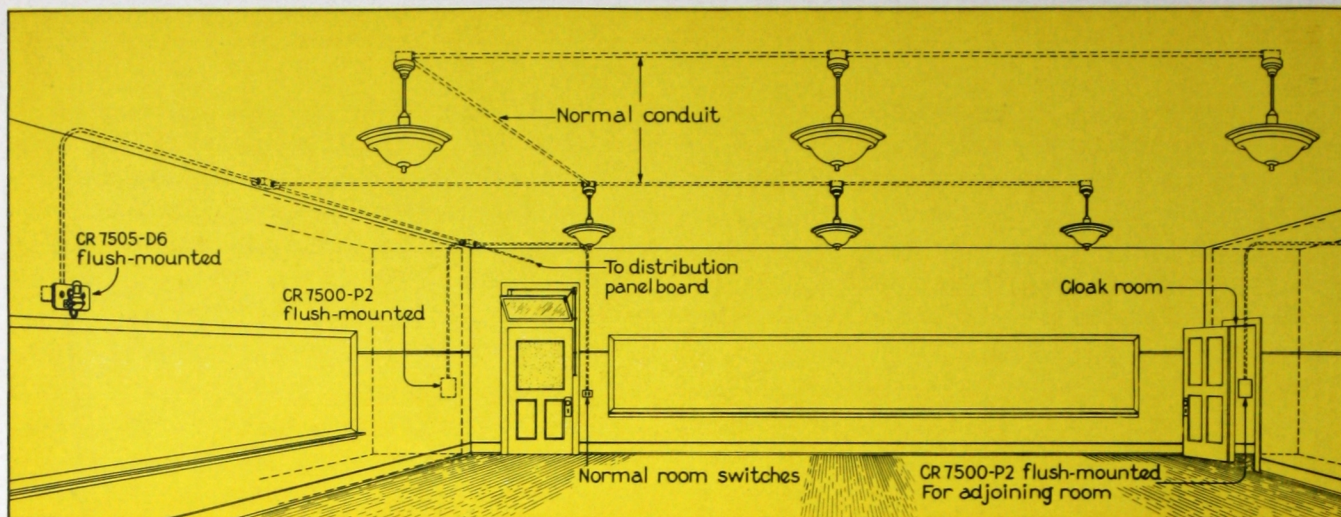
Annoyance to teachers and pupils—turning lights on and off



Fatigue due to insufficient or improper lighting of classroom

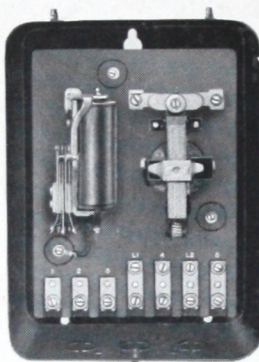


## A TYPICAL INSTALLATION OF AUTOMATIC LIGHTING CONTROL IN A CLASSROOM



of this unit and its neutral gray finish make it inconspicuous, even when surface-mounted on the classroom wall. The control contactor is mounted in the cloakroom or in a corridor.

Once a control system has been installed and adjusted, maintenance is almost unnecessary. The sensitive phototube has a normal life of about 25,000 hours. The amplifier tube inserted in the front of the relay is a standard radio tube that can be obtained at any radio store. This tube is operated considerably below its design ratings; several years experience with industrial apparatus using this tube at the same reduced rating indicates



Controller for separate mounting which is used with the photoelectric lighting control unit

that it will give several thousand hours of useful life. Both tubes are readily replaced should replacement become necessary. Consequently, this control unit should furnish reliable and accurate control throughout the useful life of the school building, with only slight attention.

You will probably be interested to know that a number of installations of this lighting control are in successful operation. We shall be glad to refer you to schools that are now using it.

This unique control device was developed in collaboration with the engineers of the Incandescent Lamp Department of the General Electric Company at Nela Park.

For installation and adjustment recommendations, refer to the lighting specialists of your local power company, or to your electrical wholesaler. Descriptive publication GEA-2679 gives the entire story on this new, inexpensive control. We shall be glad to send it on request.

**GENERAL  ELECTRIC**  
SCHENECTADY, N. Y.